

Notice of Allowability

Application No.

10/529,256

Applicant(s)

CRISTONI ET AL.

Examiner

Bernard E. Souw

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/29/2007 (Amdt).
2. ☒ The allowed claim(s) is/are 1- 9 and 11-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Jack I. Berman
Primary Examiner

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In the claims:

- ▶ In claim 1, line 16 (last line), after "*being charge polarized*", prior to ".", insert
-- wherein said plate is inclined at an angle which allows the ionized analyte to be reflected towards the analyzer of the mass spectrometer --.
- ▶ Cancel claim 10.
- ▶ In claim 11, line 2, after "*according to*", prior to "*said angle is*", delete [*claim 10, wherein the*] and insert ***-- claim 1, wherein ---.***

The above amendments have been agreed upon by Applicant's Attorney, Mr. Jay M. Finkelstein, Reg. No. 21,082, during a telephone interview conducted on 11/20/2007.

Telephone Interview

2. A telephone interview was conducted on 11/16/2007 with Applicant's Attorney, Mr. Jay M. Finkelstein, Reg. No. 21,082. The examiner suggested amending the 10/29/2007-amended claim 1 in order to make the claim allowable, i.e., by incorporating

the limitations of (amended) claim 10. The conferring parties finally agreed for an amendment as recited in the examiner's amendment above.

Amendment

3. The Amendment filed on 10/29/2007 has been entered. The present Office Action is made with all the suggested amendments being fully considered.

No claim has been cancelled.

New claim 31 has been added.

Claims 1- 9 and 11-31 are pending in this Office Action.

Claim Objections Withdrawn

4. Claims 1-4, 6, 8, 10-18, 20, 21 and 28 having been properly amended, the previous objections are now withdrawn.

35 USC § 112/¶2 Rejection Withdrawn

5. Claim 26 having been amended, the previous rejection under 35 USC § 112, 2nd paragraph, is now withdrawn.

ALLOWANCE

6. Claims 1- 9 and 11-31 are allowed.

Reasons for Allowance

7. The following is an examiner's statement of reasons for allowance:

► Claim 1 is allowed for reciting the limitation of:

(a) an inlet assembly in which liquid phase analytes are injected, nebulized and vaporized by heating; and

(b) an atmospheric-pressure ionization chamber with which the inlet assembly is in fluid communication, while the ionization chamber is provided with an outlet orifice for communicating between the ionization chamber and analyzer or filter of a mass spectrometer, wherein

(c) the atmospheric-pressure ionization chamber comprises a plate having at least one active surface which faces internal apertures of the inlet assembly and onto which the vaporized molecules of the analytes bump and are ionized, the active surface being charge polarized, whereas the plate is inclined at an angle which allows the ionized analyte to be reflected towards the analyzer of the mass spectrometer.

► Dependent claims 8 and 9 are allowed for reciting the limitation of a chemical ionization plate having corrugated surface.

► Dependent claims 13-15 are allowed for reciting the limitation of a chemical ionization plate that is movable.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Relevant Prior Art

9. This prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

(a) USPAT 6,437,327 issued to Takada et al. discloses an atmospheric-pressure ionization chamber for communicating between the ionization chamber and analyzer or filter of a mass spectrometer, the chamber wall having one surface inclined at an angle (embodiment shown in Fig.3), onto which vaporized molecules of the analytes bump, before they are ionized by corona discharge prior to their introduction to the mass spectrometer. However, Takada et al. fail to teach how to charge polarize the ions by a plate. Modification of the inclined wall by a plate shown in Takada's embodiment of Fig.4 still fails to teach a plate at an inclined angle to allow the ionized analyte to be reflected towards the analyzer of the mass spectrometer.

(b) USPAT 5,869,832 issued to Wang et al. teaches how to vaporize and charge-polarize a liquid by an inductive plate. However, Wang's fluid is introduced in the form of liquid to directly contact the plate, not in the form of vapor or droplets as claimed in the present invention. It is not obvious to use Wang's teaching to modify Takada's method, since it is unclear to one of ordinary skill in the art, whether or not Wang's charge polarization would still work, if the liquid is introduced in vapor form, i.e., due to the very short time of contact thereby involved. Most importantly, the combination would still fail to position the plate at an inclined angle to allow the ionized analyte to be reflected towards the analyzer of the mass spectrometer.

(c) USPAT 4,861,988 issued to Henion et al. and USPAT 6,906,322 issued to Berggren et al. implicate that liquid droplets may be ionized by an external electrode by way of charge induction. However, a further modification of Takada's and Wang's by Henion's and/or Berggren's would still fail to teach a plate that is positioned at an inclined angle to allow the ionized analyte to be reflected towards the analyzer of the mass spectrometer.

Communications

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw, Ph.D., whose telephone number is 571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571 272 2293. The central fax phone number for the organization where this application or proceeding is assigned is 571 273 8300 for regular communications as well as for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571 272 5993.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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November 21, 2007


Jack I. Berman
Primary Examiner